

CLAIMS:

1. An information management apparatus configured to enable a wireless application to interact with remote data, comprising:

a dynamic retrieval services manager configured to manage information received from an external wireless device via a wireless link; and

a dynamic retrieval server connected to the dynamic retrieval services manager, said dynamic retrieval server comprising:

a database management server configured to receive, parse, validate, and store a standardized query sent by the external wireless device,

a database output field validation server configured to convert a set of standardized query field name and value pairs to a set of field name and value pairs corresponding to a predetermined remote database format, and

a database data-mapping server configured to host a correspondence between a set of standardized query structures and relationships and a set of structures and relationships corresponding to said predetermined remote database format.

2. The information management apparatus of Claim 1, said standardized query comprising:

one of an email message, an SMS message, an MMS message, an HTTP message, and a WAP message.

3. The information management apparatus of Claim 1, wherein one of the dynamic retrieval services manager and the dynamic retrieval server comprise:

an output port connecting the information management apparatus to a remote database.

4. The information management apparatus of Claim 3, wherein said remote database comprises:

a multiple listing database.

5. The information management apparatus of Claim 1, said dynamic retrieval services

manager further comprising:

a program server configured to manage information processes of the dynamic retrieval server and comprising at least one of

- a set of remote database views,
- a set of information management tables, and
- a set of user account data.

6. The information management apparatus of Claim 1, wherein said predetermined remote database format is selected from a list comprising:

SQL;
SYMBOL;
ORACLE;
SYBASE;
SAP;
ERP;
IBM AS 400;
relational;
object;
delineated;
XML; and
structured.

7. The information management apparatus of Claim 3, wherein said output port is configured to communicate via a communications protocol selected from a list comprising:

an OLEDB protocol;
an ODBC protocol;
an XML protocol;
a SOAP protocol;
a RETS protocol;
a FTP protocol;
a database replication protocol; and
a database synchronization protocol.

8. The information management apparatus of Claim 1, said dynamic retrieval services manager further comprising:

a forms manager.

9. The information management apparatus of Claim 1, further comprising at least one of:

a historical log; and

a user authentication and remote database access authentication system.

10. An information management system configured to enable a wireless application to interact with remote data, comprising:

a wireless device configured to transmit information contained in a predetermined query form via a wireless link;

an information management apparatus configured to receive and process the information transmitted by the wireless device, said information management apparatus comprising

a dynamic retrieval services manager configured to manage the information received from the wireless device, and

a dynamic retrieval server connected to the dynamic retrieval services manager, said dynamic retrieval server comprising

a database management server configured to receive, parse, validate, and store the information received from the wireless device,

a database output field validation server configured to convert a set of standardized query field name and value pairs to a set of field name and value pairs corresponding to a predetermined remote database format, and

a database data-mapping server configured to host correspondences between a set of standardized query structures and relationships and a set of structures and relationships corresponding to said predetermined database format;

a remote database comprising said at least one predetermined database format.

11. The information management system of Claim 10, said predetermined query form comprising:

one of an email message, an SMS message, an MMS message, an HTTP message, and a WAP message.

12. The information management system of Claim 10, further comprising:
a computing device connected to the information management apparatus and configured to perform at least one of managing account information, creating and editing forms, and updating tables and algorithms in the dynamic retrieval server.

13. The information management system of Claim 10, further comprising at least one of:

a link encryption device; and
a geographic information system.

14. The information management system of Claim 10, wherein one of dynamic retrieval services manager and the dynamic retrieval server comprise:

an output port connecting the information management apparatus to said remote database.

15. The information management system of Claim 13, wherein said remote database comprises:

a multiple listing database.

16. The information management system of Claim 10, said dynamic retrieval services manager further comprising:

a program server configured to manage information processes of the dynamic retrieval server and comprising at least one of

a set of remote database views,
a set of information management tables, and
a set of user account data.

17. The information management system of Claim 10, wherein said predetermined remote database format is selected from a list comprising:

- SQL;
- SYMBOL;
- ORACLE;
- SYBASE;
- SAP;
- ERP;
- IBM AS 400;
- relational;
- object;
- delineated;
- XML; and
- structured.

18. The information management system of Claim 14, wherein said output port comprises a communications protocol selected from a list comprising:

- an OLEDB protocol;
- an ODBC protocol;
- an XML protocol;
- a SOAP protocol;
- a RETS protocol;
- a FTP protocol;
- a database replication protocol; and
- a database synchronization protocol.

19. The information management system of Claim 10, said dynamic retrieval services manager further comprising:

- a forms manager.

20. The information management system of Claim 10, said information management apparatus further comprising at least one of:

a historical log; and

a user authentication and remote database access authentication system.

21. An information management method configured to enable wireless applications to interact with remote data, comprising steps of:

sending a preformatted query message containing user and query information by a wireless device over a wireless link;

receiving the preformatted query message by a dynamic retrieval services manager for subsequent forwarding to a dynamic retrieval server;

reformulating and validating the preformatted query message by the dynamic retrieval server for subsequent forwarding to a remote database as a database query;

forming and sending a database response from the remote database over a back-end link to the dynamic retrieval services manager for subsequent forwarding to the dynamic retrieval server;

reformulating the database response by the dynamic retrieval server for subsequent compilation and forwarding in a preformatted response message to the wireless device; and

receiving and displaying the preformatted response message by the wireless device.

22. The method of Claim 21, wherein the step of reformulating and validating the preformatted query message comprises:

parsing the preformatted query message, and validating and storing the user and query information in a database management server;

converting a set of standardized query message field name and value pairs to a set of remote database field name and value pairs in a database output field validation server;

converting a set of standardized query message structures and relationships to a set of remote database structures and relationships in a database data-mapping server; and

forming said database query.

23. The method of Claim 21, wherein the step of reformulating the database response comprises:

parsing the database response and storing database response information in the database management server;

converting a set of database response field name and value pairs to a set of standardized response message field name and value pairs in a database output field validation server;

converting a set of database response structures and relationships to a set of standardized response message structures and relationships in a database data-mapping server; and

forming said preformatted response message.

24. The method of Claim 21 wherein the preformatted query message and the preformatted response message comprise:

one of an email message, an SMS message, an MMS message, an HTTP message, and a WAP message.

25. The method of Claim 21, wherein said remote database comprises:
a multiple listing database.

26. The method of Claim 21, further comprising:
encrypting at least one of the wireless link and the back-end link.

27. The method of Claim 21, further comprising:
displaying one of the preformatted response message and the remote database response in a geographical information system.

28. The method of Claim 21, further comprising:
at least one of managing account information, creating and editing query and response forms, and updating dynamic retrieval server tables and algorithms in a computing device.

29. The method of Claim 21, wherein the database query and the database response comprise a predetermined database format selected from a list comprising:

SQL;

SYMBOL;

ORACLE;

SYBASE;
SAP;
ERP;
IBM AS 400;
relational;
object;
delineated;
XML; and
structured.

30. The method of Claim 21, wherein said back-end link comprises a communications protocol selected from a list comprising:

an OLEDB protocol;
an ODBC protocol;
an XML protocol;
a SOAP protocol;
a RETS protocol;
a FTP protocol;
a database replication protocol; and
a database synchronization protocol.

31. The method of Claim 21, further comprising at least one of:
maintaining a historical log of user or administrator actions; and
authenticating at least one of a user wireless account access and a remote database access.

32. An information management computer program product configured to enable wireless applications to interact with one or more remote world databases of predetermined format, said computer program product comprising instructions corresponding to the methods of Claims 21-31.